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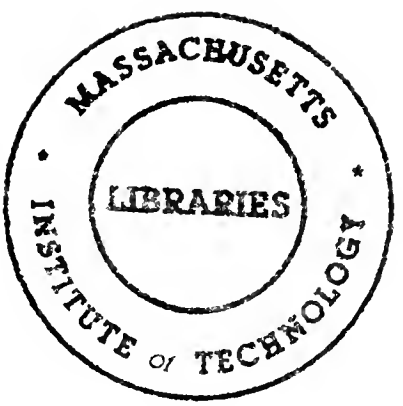

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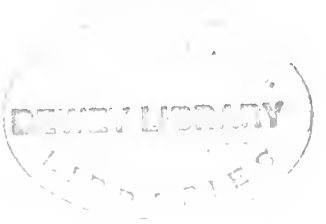

TURN-OVER AMONG INFORMATION SYSTEMS PROFESSIONALS

by

Thomas A. Barocci
Kirsten R. Wever

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INTRODUCTION:

Turn-over rates among Information Systems (I/S) professionals often exceed 25% annually. From the standpoint of an I/S department this statistic is alarming, given the fact that its personnel are in high demand and short supply, and considering that things are likely to get worse before they get better. High turn-over levels are disconcerting in any context because of the resulting disruption of work environments, group dynamics, working patterns and productivity both in the firm losing the employee and in the company that subsequently hires that person. From the standpoint of a firm that relies heavily on its I/S department (or division) what is perhaps even more distressing is the fact that often only nebulous concepts of "good people management" appear to offer any solutions.

But the supposed causes for such distress are exaggerated. By taking a closer look at the motivations and behavior patterns of real life I/S professionals it is possible for companies to structure I/S career paths in such a way as to accomplish three important things: first, controlling and reducing I/S professionals' turn-over rates; second, augmenting their job satisfaction; third, increasing their productivity and value to any given specific firm. To anticipate our

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conclusion, what is needed is firm-specific training that will increase I/S personnel's job satisfaction while at the same time decreasing the chances they will be hired away by competitors.

The purpose of this paper is to analyze the connections among I/S departmental productivity, I/S professionals' motivations and job needs, and I/S personnel turn-over levels. Our aim is to pinpoint the aspects of the first two variables that affect the third. We begin with a section on the causes of high I/S turn-over levels. Second, we examine the immediate problems that result from this dynamic and some serious long-term effects. Third, we consider a firm-specific approach to these issues, analyzing the advantages and disadvantages that accrue to both the firms and the individual professionals involved.

Much of this paper is based on extensive interview and questionnaire data from I/S and user departments at eighteen large business enterprises in a broad range of industries. We gathered our information from approximately 800 information systems professionals from the level of programmer to that of I/S Director. The individual perceptions of these respondents suggest most strongly that it makes a great deal of sense not only from the standpoint of these professionals, but also from that of the firms' top managements, to approach the I/S turn-over problem with proactive and company-specific solutions. The exact formula for each individual firm of course depends on a variety of unique circumstances. But the unambiguous perceptions of these I/S professionals offer some equally unambiguous suggestions about how to structure a low-turn-over/high-productivity I/S human resource strategy.

I/S TURN-OVER LEVELS -- CAUSES:

There are a few well-known facts about I/S personnel, which are necessary but not sufficient to explain high annual turn-over. To begin with, their technological bent is paralleled by a sense of attachment to their occupations rather than to the organizations in which they work.* This lack of organizational commitment makes it all the easier for competing companies to lure them away from current jobs with promises of more advanced technological equipment or more challenging work. At the same time, this phenomenon is furthered by the involvement of "head-hunters" and by promises of various kinds of bonuses for internal referrals of other potential "steals".

When demand for I/S professionals is high, salaries increase as well. New recruits often command salaries that bear little relationship to their experience in the field or on the job. This salary compression -- where junior personnel earn nearly as much as senior personnel -- in turn contributes to the job dissatisfaction of the more experienced people, thus making them more likely targets for head-hunters or direct offers from other firms.

Several other sets of factors have been documented to correlate with high turn-over rates. When unemployment levels are low, turn-over rates increase as well. The demographic composition of the labor force also has an impact: younger people are less likely to stay put in one job.

Many general organizational characteristics also affect turn-over rates. Turn-over tends to be lowest in manufacturing

*T.A. Barocci and P.E. Cournoyer, "Make or Buy: Computer Professionals in a Demand Driven Environment," Working Paper 1342-82, Sloan School of Management, M.I.T.

industries and highest in service sectors (like finance and health care). At the same time, turn-over levels are highest for relatively unskilled blue-collar workers. Routine jobs and non-supportive managerial styles also correlate with high turn-over levels.

Finally, a set of integrative factors centering on job satisfaction also bears on the problem. But different kinds of people are satisfied with different kinds of job characteristics. In general, job satisfaction is thought to hinge in large measure on salary and managerial style. For many occupations these conclusions hold solidly. But in a discussion of I/S professionals it is critical to distinguish between generally applicable job motivators and the actual priorities of these employees. Salary is not the primary consideration for I/S professionals. Table 1, aggregated into eight job categories, illustrates the results of our data analysis.

Several striking conclusions can be inferred here. First, all categories of respondents left their last jobs primarily because they offered too little opportunity for professional growth. "Management Problems" and "Career Development Problems" are also important reasons why these people left their last jobs, along with "Better Offer Elsewhere" and "More Challenge Elsewhere." Our research also indicates that job security is quite unimportant to I/S professionals at all levels.

A number of our respondents had been offered jobs elsewhere, but chose to remain with their current companies. Among the non-managerial respondents, the most important factors deciding them to stay were "company location" and "personal reasons." The managerial respondents turned down other jobs primarily because of "company location" and "challenging position" (with current firm).

Table 1: Respondents' Reasons for Leaving Their Jobs; Managerial and Non-Managerial

	NON-MANAGERIAL					MANAGERIAL				
% Considering Important Reason	Ranking	Programmer	Systems Analyst	Technical Staff	Project Leader	Ranking	Project Manager	Systems Develp. Manager	Technical Staff Manager	I/S Directors
Boring Work	4	9	7.6	10.3	3.6	5	10.3	3.6	6.6	4
Salary	2	10.3	13	13.6	16.3	2	12.3	15.6	12	13.6
Too Little Growth Opportunities	1	14.3	15.6	12.3	22.3	1	18.3	15	23.6	19.6
Attractive Offer at Another Firm	3	12.3	9.6	9.3	8.3	3	10.4	12	10.6	14
Not Enough Challenges	8	6	6.3	3.3	6	4	7.6	9	7.3	5.6
Personal Reasons	7	4.3	6.3	10	5.6	8	5.6	1.3	10	4
Bureaucracy	10	5	3.3	4.3	2.6	10	3	3.3	2.6	2.6
Management Problems	5	5.3	7.3	7.6	9.3	7	6.6	6.3	3.6	5
Work Environment	9	5.6	6	2	6	9	2	5.6	4	5
Not Enough Career Development	6	10	5.3	4.3	8.3	6	3.3	5	4	10

A second set of questions we posed to the respondents concerned the involvement of employers in their career developments. This query yielded some surprising responses. First, respondents in all job categories (programmers, systems analysts, technical staff, project leaders, project managers, systems development managers, technical staff managers, and I/S directors) were unambiguously in favor of employer involvement in the development of their careers. Among the most popular methods of employer involvement were career counseling, the provision of the education and experience necessary for advancement within the firm, clear career paths, regular counseling with management, in-house technical and management education, money for outside training and time off for such education. (See Tables 2 and 3.)

Further, the majority of the respondents (especially at the lower job classification levels) valued the career-related help of their own supervisors and managers more than that of their departments. They also expressed unambiguous preferences regarding the qualities of their bosses/supervisors. The non-management respondents placed their greatest emphasis on emotional stability, the ability to make quick decisions and rapport with employees. The managers valued emotional stability and quick decision-making, as well as the confidence of executive management, knowledge of corporate goals and an adequate user interface. (See Tables 4 and 5.)

Finally, these professionals have substantially clearer perceptions of what they need to advance in their fields than they do of what is necessary to advance within their firms. (See Table 6.)

Table 2: NON-MANAGERIAL RESPONDENTS' PREFERENCES REGARDING EMPLOYER CONTRIBUTIONS TO I/S CAREER DEVELOPMENT

% considering important or very important	Programmers	Systems Analysts	Technical Staff	Project Leaders
Career Aptitude Testing	27	33	33	6
Career Counseling	56	52	66	47
Experience/Education Necessary to Advance within the Firm	58	72	80	56
Clear Career Paths	55	61	67	44
In-House Technical Education	71	81	67	58
In-House Management Education	72	83	73	76
Money for Outside Training	61	72	78	75
Time off for Career-Related Education	53	67	71	65

Table 3: Managerial Respondents' Preferences Regarding Employee Contributions to I/S Career Development

(% Considering important or very important)	Project Managers	Systems Development Managers	Technical Staff Managers	I/S Directors
Career Aptitude Testing	30	30	9	36
Career Counselling	52	35	55	92
Experience/Education necessary to Advance within firm	80	55	82	75
Clear Career Paths	74	45	55	69
In-House Technical Education	67	45	91	75
In-House Management Education	85	60	82	77
Money for Outside Training	94	60	82	83
Time off for Career-Related Education	75	45	63	77

Table 4: NON-MANAGERIAL RESPONDENTS' VIEWS ON THE QUALITIES IMPORTANT IN THEIR SUPERVISORS AND MANAGERS (mean response)

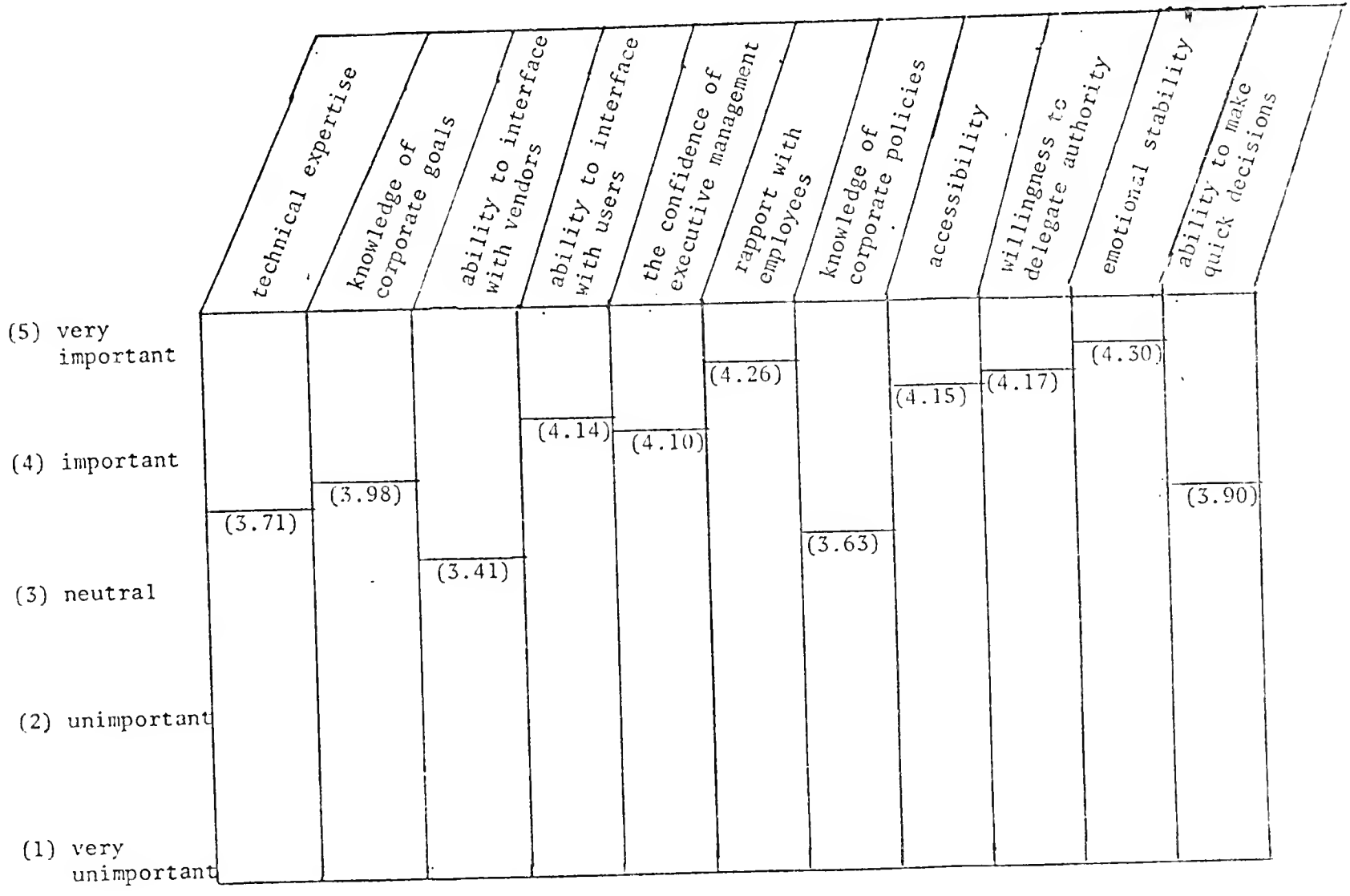

Table 5: MANAGERIAL RESPONDENTS' VIEWS ON THE QUALITIES IMPORTANT IN THEIR SUPERVISORS AND MANAGERS (mean response)

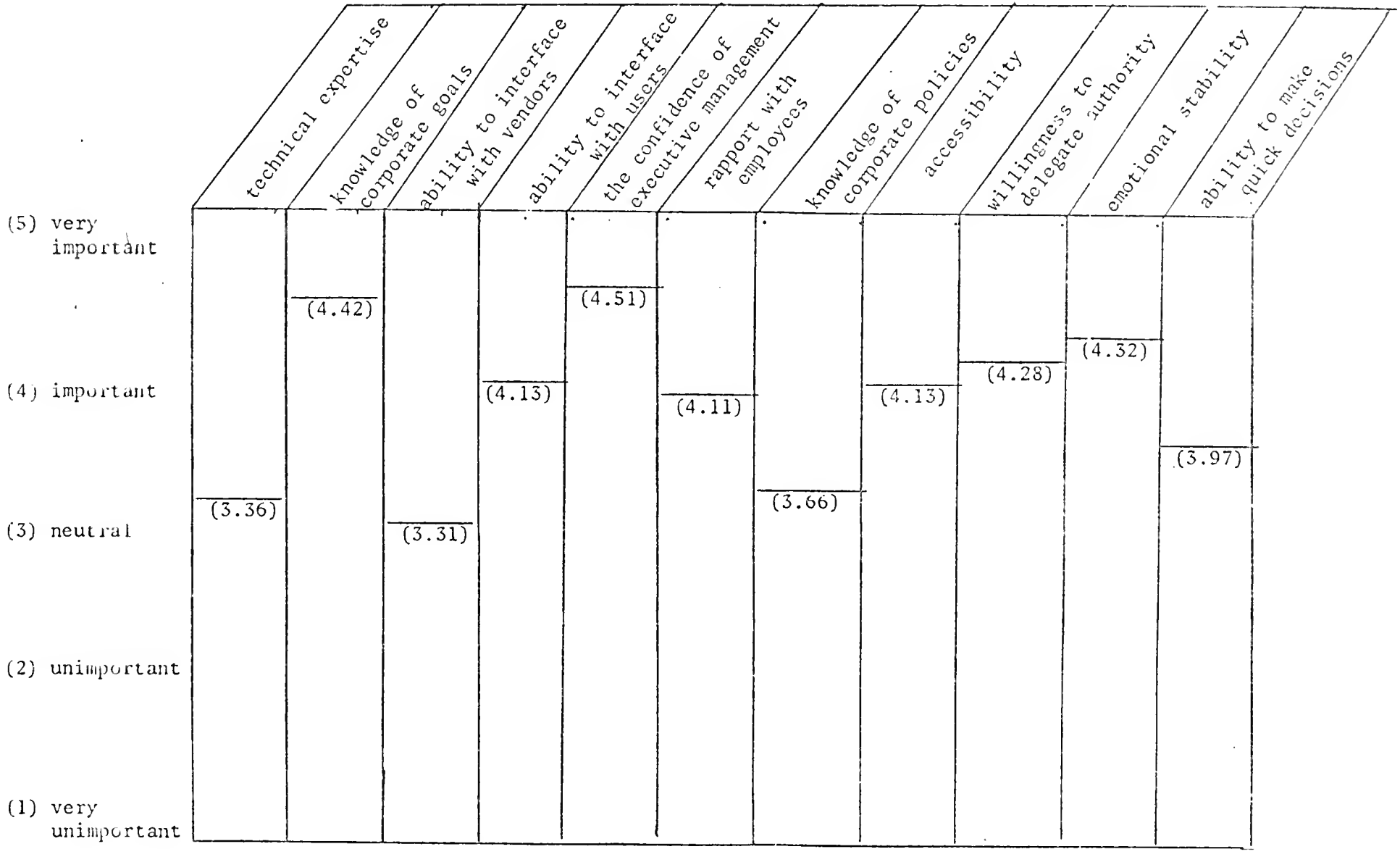

Table 6

Respondents' Understanding of how to Achieve Career Advancement in General and Within Their Firms

(% in each category; aggregate)

	Strongly Disagree	Disagree	Neither Agree Nor Disagree	Agree	Strongly Agree	
I have a clear understanding of what skills I need to develop professionally	2	13	25	54	6	(100%)
I have a clear understanding of what skills I need to advance in this company	8	23	30	36	3	(100%)

I/S TURN-OVER--CONSEQUENCES:

The direct costs involved in losing and/or hiring an I/S professional are more or less self-evident. Financial price tags can be attached to the efforts involved in recruitment, selection, placement, training and loss of a trained employee. But indirect costs can be even more impressive. Turn-over implies the disruption of performance -- both on the part of the individual leaving or joining a firm, and on the parts of the colleagues he/she leaves behind and joins. Included in this dynamic are the disruption of social patterns, patterns of communication, and general morale. On a more aggregate basis, high turn-over levels (or the projection of a shortage of a particular type of personnel) can lead to the cancellation of projects, and can thus affect even I/S or user revenues.

Another subtle but substantial indirect cost is incurred by the low productivity of a new hire, which is generally somewhere around 20% for the first seven weeks on the job. Again, this cost accrues to both the firm that loses and the company that hires the I/S professional. Finally, under conditions of high demand for (and short supply of) I/S professionals recruitment time is increased, which further adds to the cost of turn-over. The list of direct and indirect costs associated with high turn-over levels is a long one.

In some cases, of course, turn-over is not necessarily a bad thing. Sometimes the effect is to displace poor performers, to introduce flexibility and innovation into the firm, or to encourage adaptive behavior and team spirit among employees. Undoubtedly these results can be as helpful in I/S circles as they can in other work environments. But by the same token other functions do not as a rule

suffer the costs imposed by a more than 25% annual turn-over rate. Thus, while it is important to keep in mind the potential advantages of turn-over per se, it is more important to learn how to control and decrease turn-over among I/S professionals.

CONTROLLING TURN-OVER; THE "MAKE OR BUY" DECISION:

There are several obvious methods of minimizing employee turn-over. The following approaches should provide the basis for such an attempt in almost any context:

- Careful recruitment and selection;
- Realistic assessment of the fit between employee and firm/department;
- Job content design that meets employee needs and fosters motivations;
- Competitive and flexible wages taking into account market and internal organizational equity;
- Supportive, facilitative, educative and informative leadership and supervision (including regular feed-back on employee performance and counseling on future moves within the organization);
- Job security and good working conditions;
- Fostering team spirit and good communications (top-down as well as bottom-up).

To the degree that these measures are feasible in any given firm, they should provide the context for an approach that takes into account the more specific qualities of the employees in question. Several aspects of I/S professionals deserve particular attention:

- They leave their jobs most often because they lack sufficient opportunities for growth; salary is a secondary consideration.
- They want active management involvement in their career developments (often as opposed to that of personnel departments).
- They clearly prefer general management-oriented over technically-oriented qualities in their immediate supervisors.
- They feel inadequately informed of the requirements for advancement within their own organizations.

Aggregated, these four conclusions all point to the same thing: from the standpoint of I/S professionals at all levels, there is nothing preventing greater employer involvement in I/S career development; indeed, there appears to be no reason why such involvement should not contribute to the organizational loyalty and commitment of I/S professionals, and thus to the reduction of high I/S turn-over levels. The recognition of these conclusions will allow top management and I/S managers to structure an I/S human resource strategy that decreases turnover.

Let us step back a moment and consider the options available to a firm facing a shortage of I/S personnel. The first possibility is to hire and train new people. The second is to hire trained personnel. The third is to train existing personnel. The second option is a "buy" decision: the employee already embodies the skills necessary to his/her job within the firm -- these skills are bought upon placement. In the short run this approach allows for the quicker integration of the employee into the productive machinery of

the department. But in the medium and long run, the "buy" decision can be counterproductive. The very fact that these personnel already possess the skills and knowledge that fit a given firm's requirements implies that any other company can also utilize these people effectively.

In and of themselves, the two "make" decisions (one and three, above) also admit the possibility of continued high turn-over rates. If the firm embodies in its new hires or existing personnel the kinds of skills that can easily be used in other firms, the "make" decision is not necessarily more advantageous than the "buy" option. But the fact that I/S professionals are dissatisfied with the degree and type of their employers' involvement in their career paths suggests that a more firm-specific "make" approach could be better for everyone. To begin with, management should communicate with existing personnel directly (if necessary, bypassing personnel departments) about advancement opportunities within the organization. This will have the double effect of clearing up employee confusion about firm-specific growth opportunities, and allowing I/S or user managements to structure training and education opportunities and job contents in such a way as to minimize the chances that other firms will be able to utilize these professionals for their own specific purposes.

It will not always be possible to focus I/S training and education on solely firm-specific objectives. When it is possible, firms can introduce company-specific higher-level languages created for the special purposes involved in unique products or services. When this approach is unfeasible or inappropriate, the introduction of profit sharing and employee stock plans can contribute to employee commitment to the organization itself.

Regardless of what can initially be done within any given firm to improve the fit between employee and employer, the organization can follow several general guidelines that will help clarify the potential for such a fit. The following suggestions apply to almost all cases:

- provide accurate information on the possible career paths* of employees within the firm, possibly in a variety of departments;
- provide regular feedback on each individual's potential for advancement along the lines possible within a given company;
- provide employees with opportunities for valid self-assessment with respect to the firm's career opportunities;
- reward employees for developing their own career potentials;
- develop and publicize opportunities and programs for advancement within the firm.

These steps should be taken with the following considerations in mind:

- How can I/S career paths be developed to improve the fit between employee and company?
- How can this fit contribute to I/S professionals' job satisfaction?
- How can these two considerations be worked to increase employees' organizational loyalty and firm-specific talents, skills, and knowledge?

*See Sloan School Working Paper #1481-83

CONCLUSION:

In the absence of any concept of what makes I/S personnel tick, the "make or buy" decision appears very complex, and the turn-over problem seems unapproachable. But taken from the starting point of what I/S professionals look for in a job, these problems can be tackled directly by top managements and their I/S departments. Success presupposes a coherent strategy for the human resource planning and management approaches that are appropriate to the technological base of the I/S field and to the unique qualities of I/S professionals. Such a strategy must begin with the considerations that inform any corporate strategy: long-range plans, resource inventory, projections of future needs and anticipation of future technology and products. Armed with the objectives that result from the prior stages of strategy making, the problem of I/S turn-over can be approached most constructively from a position of familiarity with the motivations of I/S professionals, and with the potential for firm-specific career development programs.

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